**Detailed Responses to Reviewers**

February 23, 2023

Dear Prof Philip F. Stahel, MD, FACS

We are pleased to submit a revised version of our manuscript, “Contributing factors of preventable "never events" in the operating room: a machine learning analysis" (Manuscript ID: 51ec1e3b-ae53-42e3-a59f-ce68d7a8e9e4), incorporating the reviewer’s constructive comments.

In addition to minor edits to improve the clarity of the manuscript, we have carefully considered each comment and added new content to the manuscript accordingly, with all additions highlighted in yellow. The attached document details our responses.

We trust that the revised manuscript is more focused and will be of more value to readers. Moreover, we believe that the findings of this study are important and have the potential to add value to the body of literature published in this domain.

All authors have seen and approved the final version of the manuscript.

Thank you again for reviewing and considering our work.

Sincerely,

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**Detailed Responses to Reviewers**

**Manuscript title: Contributing factors of preventable "never events" in the operating room: a machine learning analysis
Manuscript ID: 1060473**

**Reviewer 1**

**Comment:** *This is a potentially interesting paper suitable for the journal's mission.
I have a few specific comments for improvement.*

Response:Thank you for your review. We have re-evaluated the manuscript in light of your insightful comments and trust that it has been improved

**Comment 1:** *The manuscript title should be modified to be more coherent and reflective of the study design, as such: Root causes of preventable “never events” in the operating room: a machine learning analysis
Please note that the title should be spelled in lower case throughout, per the journal's standard format.*

Response: We appreciate the comment. The title was revised to: "Factors contributing to preventing "never events" in the operating room: a machine learning analysis". (The title is spelled in lower cases as per the journal’s standard format.)

**Comment 2:** *The conclusions must be supported by the data shown in this study. Hypothetical extrapolations must be reserved for the discussion. It is also striking that the conclusion in the abstract does not match the conclusion at the end of the main manuscript.
Conclusion in the abstract:
"Using machine learning, we could quantify the risk factors’ potential impact on wrong site surgeries and retained foreign items in relation to a surgery’s characteristics, suggesting that safety standards should be tailored accordingly. "
 Conclusion in the main text:
"Our results suggest that the existing 'one size fits all' safety approach currently in place may significantly benefit from tailored adjustments that consider additional factors such as those identified in this work. These more specific guidelines may be used to adjust risk management programs and improve patient safety."
This latter conclusion paragraph represents a hypothetical platitude and is not reflective of a take-home message derived from the scientific data and insight from this study. It is unclear what the term "one size fits all" refers to as this has not been introduced previously and certainly did not consist of the hypothesis or study design.
Both conclusion sections must be completely re-written to be coherent and reflective of the data shown in this study.*

Response: We appreciate the comment. We have revised the conclusion section to emphasize our finding that risk factors are related to characteristics of the surgery. We also added a recommendation to perform a risk assessment to contributing factors to occurrence of never events in each operating room (Lines 354-361). Accordingly, we adjusted the conclusion section in the abstract (Lines 75-78).

**Comment 3:** *There are too many non-standard abbreviations which render the text difficult to read and interpret. The abbreviations "NE" for never event, "ML" for machine learning, and "RF" for random forest should be avoided and those terms should be spelled out throughout the manuscript.
The term "never event" should not be capitalized and preferably spelled with quotation marks.*

Response: We appreciate the comment. The abbreviations have been replaced with the full terms throughout the manuscript.

**Comment 4:** *The term "Registered Nurses"  should not be capitalized*

Response: We appreciate the comment and have made this correction throughout the manuscript.

**Comment 5:** *All changes to the title and abstract must be made identically in the revised word file and in the journal's online submission system.*

*אני לא מבינה את ההערה הזו*